

REMARKS

Claims 27-32 and 38-43 are pending in the application. By this Amendment, claims 33-37 are canceled, and claims 38-43 are added. Reconsideration based on the above amendments and the following remarks is respectfully requested.

Appreciation is respectfully expressed for acknowledgement of Applicant's Claim for Foreign Priority and Receipt of Certified Copies of the priority documents in Application No. 09/219,707.

The Examiner is thanked for the many courtesies extended to Applicant's representative in the course of a personal interview conducted May 6, 2003. The substance of that interview is included herein per MPEP §713.04.

I. The Claims Define Allowable Subject Matter

The Office Action rejects claims 27-32 under 35 U.S.C. §102(b) as unpatentable over U.S. Patent No. 5,652,157 to Hirano et al. ("Hirano"). This rejection is respectfully traversed.

Applicant respectfully asserts that Hirano does not disclose or suggest an etching mask having at least "a second region that ... intercepts application of etching beams to a sidewall of the first region during etching" as recited in independent claims 27, 28 and 30.

The Office Action asserts that the "etching beams" of claims 27-32 are taught by the dry etching and ion milling in col. 13, lines 9-43 of Hirano. In col. 13, lines 33-47 of Hirano, Hirano discloses a two step dry etching of polyimide film with the use of another masking layer such as SiO₂, SiN and SiON between the polyimide film and the photoresist layer which resists attack by dry oxygen but is etched by a halogenous gas, such as CF₄, C₂F₆, CHF₃ and SF₆ thereby affording protection of the polyimide layer while it is being etched by dry oxygen. Further, in the first embodiment of Hirano disclosed in columns 13 and 14, an Si-based first masking layer 103 that is not etched by dry etching with O₂ is formed on a polyimide 5 for patterning the polyimide 5 (Fig. 10(a)). The first masking layer 103 is

dry-etched with halogen gas using a photoresist layer 104 as a mask (Fig. 10 (c)). Then, the polyimide 5 is etched by dry etching using O₂ gas (Fig. 10 (e)). Accordingly, Hirano does not disclose or suggest "a second region that ... intercepts application of etching beams to a sidewall of the first region during etching."

Further, during the May 6 Examiner Interview, the Examiner asserted that the metal layer 11 taught the first and second regions recited in the claims, the vertical section of metal layer 11 showing a first section and the horizontal section of metal layer 11 showing a second region. The Examiner also asserted that the first region determined the pattern width of the workpiece by blocking the etching beam. However, the metal layer 11 and the conductive deposit 12 are wiring. The metal layer 11 and conductive deposit 12 are not masks, so that unlike the etching mask of the present invention they remain unremoved.

Moreover, Applicant respectfully submits that Hirano does not disclose or suggest an etching mask having a first region and a second region, wherein the second region has a width which is greater than the width of the first region as generally recited in new claims 38 and 39. Further, Applicant respectfully submits that Hirano does not teach or suggest an etching mask, wherein the first region is a vertical bar and the second region is a lateral bar placed on another end of the vertical bar, and wherein the lateral bar has a width greater than a width of the vertical bar as generally recited in claim 30.

For at least these reasons, it is respectfully submitted that independent claims 27, 28, 30, 38 and 39 are distinguishable over Hirano. The remainder of the claims that depend from independent claims 27, 28, and 30, 38 and 39 are likewise distinguishable over Hirano for at least the reasons discussed above, as well as for the additional features they recite.

II. Conclusion

For at least these reasons, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 27-32 and 38-43 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in better condition for allowance, the Examiner is invited to contact Applicant's undersigned attorney at the telephone number listed below.

Respectfully submitted,



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